

MR. J. W. PULSFORD, late scholar of Sidney Sussex College, Cambridge, and second master of the Dorchester Grammar School, has been appointed a junior mathematical teacher in the Merchant Venturers' Technical College, Bristol.

SIR W. H. PREECE, K.C.B., F.R.S., will distribute the prizes and certificates to the students of the South-Western Polytechnic, Chelsea, on Saturday. The laboratories will be open for the exhibition of apparatus and experiment, and short lectures will be given in the course of the evening.

THE movement in favour of the establishment of a Liverpool University has received an impulse by the offer of Mr. A. L. Jones to contribute 5000*l.* towards that purpose. With the University College as a centre of activity, and the interest taken in educational matters in Liverpool, the movement ought soon to assume a practical form. At a special meeting of the council of University College, held on Tuesday, the following resolutions were adopted:—(1) That, while gratefully acknowledging the advantages which have accrued to University College, Liverpool, by its association with Victoria University, this council is of opinion that a University should be established in the city of Liverpool; that this council will welcome a scheme with this object upon an adequate basis; and that a committee be appointed to consider and report upon the whole question, with power to make inquiries and to communicate with other bodies. (2) That the committee consist of all the members of council, with power to associate with them any other persons whom they may think fit.

SIR WILLIAM HART DYKE presided at the annual meeting of the Association of Technical Institutions on Tuesday, and delivered an address, in the course of which he dealt with the necessity of a coordinated educational system, educational and industrial progress in America, the educational crisis produced by the decision as to the limitation of the powers of School Boards as regards higher grade and evening continuation schools, and the constitution of local authorities to be responsible for educational provision. Several resolutions were passed, among them being one approving the main provisions of the Secondary Education Bill, 1900, and hoping that the new Education Bill promised by the Government will prevent unnecessary and wasteful overlapping and competition between the educational work of School Boards and County Councils.

AT a meeting of Convocation of the University of London, held on Friday last, a resolution was carried to the effect:—"That the life composition fees paid by the graduates in lieu of annual subscriptions to Convocation, being the capital of the University, ought not to be retained by the Treasury; and that the Senate of the University be hereby requested to represent to the Chancellor of the Exchequer that the University is the equitable owner of the same." In proposing the resolution Prof. S. P. Thompson compared the London University with other Universities as regards the support given to it. He pointed out that the University of Berlin has 5140 students and that the State subvention is more than 105,000*l.* per annum, making about 21*l.* per student. The University of Rostock, with 514 students, has a State subvention of 17,000*l.*, or about 33*l.* per student, and the annual State subvention at Strassburg amounts to 44*l.* per student. The University of Edinburgh, with 2780 students, has a Parliamentary grant of 25,870*l.*, or about 9*l.* per student; and the University of St. Andrews, with 236 students, enjoys a grant of 10,800*l.*, or 45*l.* per student per annum.

To all who are interested in the subject of education in country districts we recommend for serious consideration a small pamphlet which we have received from the Board of Education and which bears the title "Specimen Courses of Object Lessons on Common Things connected with Rural Life and Industries for all Classes in Rural Schools." It has long been recognised by educational authorities that there should be a differentiation between urban and rural education, and two years ago Sir John Gorst, in the course of a speech delivered at the Countess of Warwick's school near Dunmow, dwelt upon this necessity with his accustomed vigour of expression. Since that time the Agricultural Education Committee have been working most energetically to bring about this much-desired result, and the manifesto of the Board of Education may in some degree be looked upon as one of the practical issues of the voluntary labours of the gentlemen composing that Committee. Of course in all educational reforms in this country the usual difficulties of vested interests, inelasticity of teachers, hostility

of those who fail to see the importance of nature knowledge, &c., have to be faced and, if possible, overcome. The schedules now issued should go a long way towards removing these difficulties, and it is satisfactory to learn from the introductory statement that the schemes submitted are actual examples of attempts now being made to adapt the teaching in rural schools to the requirements of country life. One paragraph, pointing out the connection of the new schemes with other studies, strikes us as being an admirable answer to those objectors who declare that the introduction of these rural subjects entails the subordination or suppression of other necessary subjects. It is shown most conclusively in this paragraph that no additional burden is imposed upon the teachers or pupils, but simply a "change in the contents of the lessons in the ordinary subjects." The Board recognise that the desired change can only be brought about gradually. It is not often that we find a Government Department actually in advance of the times, but in the present case we certainly must credit the Board of Education with having made a most important step in the right direction.

SOCIETIES AND ACADEMIES.

LONDON.

Zoological Society, April 2.—Dr. Albert Günther, F.R.S., vice-president, in the chair.—Mr. G. P. Mudge read a paper on the myology of the tongue of parrots, and added a tentative classification of this order of birds placed upon the structure of the tongue. This memoir was the outcome of an examination of the tongues of fifty-three parrots ranging over the whole order, the Cyclopsittacidae excepted; and the conclusion arrived at by the author was that the parrots, by the structural characters of the tongue alone, might be arranged in three families, viz. Loriidae, Nestoridae and Psittacidae.—A communication was read from Prof. W. Blaxland Benham on the larynx of a roqual whale (*Balaenoptera rostrata*) and of a cachalot of the genus *Cogia*. The paper was based upon an examination of the larynxes of specimens of these cetaceans, which had been washed up on the coast of Dunedin, New Zealand, and in it the author showed how widely different this organ was in these representatives of the Mystacoceti and the Odontoceti.—A communication from Mr. F. F. Laidlaw contained an account of the lizards collected during the "Skeat Expedition" to the Malay Peninsula in 1899-1900. Twenty-seven species were enumerated in the paper, and notes were given on their geographical distribution and habits, special attention being directed to the curious habit of *Tachydromus sexlineatus* of running about on the top of the long buffalo-grass. One new species was described, under the name *Lygosoma floweri*.—Prof. D. Arcy W. Thompson, C.B., read a paper on the pterylosis of the giant humming-bird, *Patagona gigas*.

Entomological Society, April 3.—Mr. Charles G. Barrett, vice-president, in the chair.—The Rev. A. E. Eaton sent for exhibition, on behalf of Mr. F. M. Halford a ♀ sub-imago of a species of *Ephemeridae* of the genus *Ephemera*, received from Central Africa, without more precise indication of locality, this being the first time this genus has been noticed from Africa.—Mr. McLachlan remarked that *Ephemera* usually occurred in cold alpine or temperate regions, and that the Central African example probably inhabited the mountains at a considerable altitude.—Dr. Chapman exhibited cases of *Luffia ferchaultella* from Cannes, and a spider, which are found on the same rocks, the interest of the specimens being in the fact that the spider when at rest has almost precisely the same form and coloration as the cases of the moth.—Mr. W. L. Distant communicated a paper entitled "Enumeration of the Heteroptera (Rhynchota) collected by Leonardo Fea in Burma and its Vicinity."

MANCHESTER.

Literary and Philosophical Society, April 2.—Prof. Horace Lamb, F.R.S., president, in the chair.—Mr. W. E. Hoyle exhibited an old form of dial, bearing the name "Nathaniel Jeynes" and the date "1678," which had on one side a small circular rotating plate inscribed with the circumpolar constellations.—Mr. C. E. Stromeier mentioned that on several occasions he had seen the sun's rays converging to a point directly opposite to the sun. In one case, when the sun was very low on the western horizon, some very marked rays, caused by a low bank of clouds, converged to a point above the eastern horizon.

—The president communicated some numerical illustrations of the diffraction of sound. These were intended to show the extreme facility with which sounds of relatively large wavelength can make their way round obstacles or through apertures. Thus, with a wave-length of 4 feet, a wire $\frac{1}{8}$ of an inch in diameter dissipates only the fraction 6.6×10^{-8} of the energy which falls upon it; a spherule of water $\frac{1}{1000}$ of an inch in diameter scatters only 1.3×10^{-16} . Again, a perforated screen or grating may present hardly any obstacle to the transmission of sound, although the apertures occupy only a small proportion of the total area. Reference was made to the bearing of such results on the attempts made to improve the acoustic properties of buildings by hanging wires, and on current notions as to the possibility of the reflection of sound from clouds.

PARIS.

Academy of Sciences, April 9.—M. Fouqué in the chair. —On the scientific utility of an auxiliary international language, by M. H. Sebert. This language should be capable of being used for the ordinary intercourse of social life, for commercial purposes and for scientific reports; it should be easy of acquisition, and it ought not to be an existing language. Nor can a dead language be used, even if its grammar were simplified and its vocabulary enriched. The creation of a new artificial language alone permits the realisation of simplicity and the unity of method to be obtained by the union of elements borrowed from different living tongues. —On the services which the auxiliary international language of M. le Dr. Zamenhof, known under the name of *Esperanto*, can render to science, by M. Ch. Méray. —Generalisation of Trouton's law, by M. de Forcrand. In all chemical or physical phenomena the heat of solidification of any gas is proportional to its temperature of vaporisation under atmospheric pressure. —New method of distinguishing colouring matters, application to the indophenols, by MM. C. Camichel and P. Bayrac. The absorption of light by solutions of indophenols in alcohol, ether, carbon bisulphide and chloroform has been studied. Taking wave-lengths as abscissæ and coefficients of transmission as ordinates, curves of the form of the parabola were obtained with the convex side towards the axis of abscissæ; the branch of the curve corresponding to the red rises much more rapidly than that corresponding to the green or blue. To distinguish each of the compounds studied, the lowest point of the curve was determined—that is, the minimum transparency. This minimum is independent of the concentration for all the compounds of which the coefficient of absorption is proportional to the concentration, following Beer's law; it varies with the solvent in a manner different from that noticed by Kundt. —On the reaction of the amidobenzophenones and the aromatic amines in the presence of sulphuric acid, by M. Paul Lemoult. In the presence of sulphuric acid the paramidobenzophenones give with certain aromatic amines, to the exclusion of others, reaction products which are colouring matters; the only amines capable of this reaction are those which have at least two aromatic groups directly united with nitrogen; it is necessary, moreover, that one of these be a phenyl group, and that its para-position be free, the nitrogen being in 1. —The angle limiting the numeration of objects and the movements of the eyes, by MM. André Broca and D. Sulzer. —Is the resistance of Algerian sheep to foot-rot hereditary? by M. P. Pourquier. —On Koswite, a new pyroxenite from the Ural Mountains, by MM. L. Duparc and F. Pearce. —On the "blood rain" observed at Palermo in the night of the 9th to 10th March, 1901, by M. Stanislas Meunier. In a hundred parts of the powder were found, water, 5.20; organic matter, 3.17; sand, 59.14; carbonate of lime, 23.91; and (by difference) clay, 8.58. —On the oxidation of iron protosulphide, by M. Gay-Lancermine.

DIARY OF SOCIETIES.

THURSDAY, APRIL 18.

ROYAL INSTITUTION, at 3.—Naturalism in Italian Painting: Roger Fry.
SOCIETY OF ARTS (Indian Section), at 4.30.—Madras, the Southern Satrapy: J. D. Rees.
RÖNTGEN SOCIETY, at 8.—Meeting for Discussion. Subject: X-Ray Therapeutics: To be opened by Miss M. M. Sharpe.
CHEMICAL SOCIETY, at 8.—Researches on Moorland Waters. Part II. On the Origin of the Combined Chlorine: W. Ackroyd.—Robinin, Violaricetrin, and Osyritrin: A. G. Perkin.—Preparation of Orthodimethoxybenzoin, and a New Method of preparing Salicylaldehydemethyl ether: J. C. Irvine.—(1) Action of Alkyl Haloids on Aldoximes and Ketoximes: Part II. (2) The Supposed Existence of Two Isomeric Triethylloxamines: Wyndham R. Dunstan and E. Goulding.—(1) Nitrocamphene, Amino-camphene, and Hydroxycamphene; (2) Action of Hydroxylamine on the Anhydrides of Bromonitrocamphane: M. O. Forster.—The Influence of Cane Sugar on the Conductivities of Potassium Chloride and Potassium

Hydroxide, with Evidence of Salt Formation in the Latter Case: C. J. Martin and O. Masson.
INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Replies of Mr. H. Ravenshaw and Mr. S. F. Walker to the Discussion on their Papers read at the last Meeting.—Test-Room Methods of Alternate Current Measurements: A. Campbell.—Note on the Use of the Differential Galvanometer: C. W. S. Crawley.

FRIDAY, APRIL 19.

ROYAL INSTITUTION, at 9.—The Existence of Bodies Smaller than Atoms: Prof. J. J. Thomson, F.R.S.
INSTITUTION OF CIVIL ENGINEERS, at 8.—The Theory of Cast-Iron Beams: E. V. Clark.
INSTITUTION OF MECHANICAL ENGINEERS, at 8.—Address by the President, W. H. Maw.

SATURDAY, APRIL 20.

ROYAL INSTITUTION, at 3.—Climate: its Causes and Effects: J. Y. Buchanan, F.R.S.

MONDAY, APRIL 22.

SOCIETY OF ARTS, at 8.—Alloys: Sir W. C. Roberts-Austen, K.C.B., F.R.S.

TUESDAY, APRIL 23.

ROYAL INSTITUTION, at 3.—Cellular Physiology, with Special Reference to the Enzymes and Ferments: Dr. A. Macfadyen.
ROYAL STATISTICAL SOCIETY, at 5.

WEDNESDAY, APRIL 24.

SOCIETY OF ARTS, at 8.—Patent Law Reform: Alexander Siemens.
GEOLOGICAL SOCIETY, at 8.—Notes on Two Well-Sections: Rev. R. Ashington Bullen.—(1) On the Geological and Physical Development of Antigua; (2) On the Geological and Physical Development of Guadeloupe; (3) On the Geological and Physical Development of Anguilla, St. Martin, St. Bartholomew, and Sombbrero; (4) On the Geological and Physical Development of the St. Christopher Chain and Saba Banks: Prof. J. W. Spencer.

THURSDAY, APRIL 25.

ROYAL INSTITUTION, at 3.—Naturalism in Italian Painting: Roger Fry.
INSTITUTION OF ELECTRICAL ENGINEERS, at 8.
INSTITUTION OF CIVIL ENGINEERS, at 8.—"James Forrest" Lecture—On Chemistry in its Relations to Engineering: Prof. Frank Clowes.

FRIDAY, APRIL 26.

ROYAL INSTITUTION, at 9.—Colour in the Amphibia: Dr. Hans Gadow, F.R.S.
SOCIETY OF ARTS, at 8.—Polyphase Electric Working: Alfred C. Eborall.
PHYSICAL SOCIETY, at 5.—On the Thermodynamical Correction of the Gas Thermometer: Prof. Callendar, F.R.S.—On the Production of a Bright-line Spectrum by Anomalous Dispersion and its Application to the Flash-Spectrum: Prof. R. W. Wood.

SATURDAY, APRIL 27.

ROYAL INSTITUTION, at 3.—Climate: its Causes and its Effects: J. Y. Buchanan, F.R.S.

CONTENTS.

PAGE

Egyptian Chronology	581
Electro-Chemistry. By Dr. F. Mollwo Perkin	582
Slater's Mammals of South Africa. By R. L.	583
Infinitesimal Geometry. By R. W. H. T. H.	584
Our Book Shelf:—	
Vivarez: "Les Phénomènes électriques et leurs Applications"	585
Elliott: "The Agricultural Changes and Laying Down Land to Grass"	585
"Friedrich Wöhler, Ein Jugendbildnis in Briefen an Hermann von Meyer."—H. M.	586
Schumann and Lauterbach: "Die Flora der Deutschen Schutz-gebiete in der Südde"	586
Jastrow: "Fact and Fable in Psychology"	586
Letter to the Editor:—	
Selenium in Sulphuric Acid.—V. H. Veley, F.R.S.	587
The Board of Trade and Electric Lighting	587
Seismology in Japan. By Prof. J. Milne, F.R.S.	588
The Eye in the Recently Discovered Cave Salamander of Texas. By G. B. H.	589
The Commercial Uses of Peat. By W. H. Wheeler	590
The British and German Antarctic Ships	591
Meeting of the International Association of Academies	591
Notes	592
Our Astronomical Column:—	
Nova Persei	596
A Remarkable Group of Nebulous Spots	596
Stonyhurst College Observatory	596
Catalogue of Double Stars	596
Indian Forestry. By Sir Dietrich Brandis, K.C.I.E., F.R.S.	597
Submarine Boats	601
The Currents in the Gulf of St. Lawrence	601
University and Educational Intelligence	602
Societies and Academies	603
Diary of Societies	604